

I. Fill in the blanks: 5x1=5

1. Yusuf Khan was also known as \_\_\_\_\_.
2. The word "Palayam" means \_\_\_\_\_.
3. \_\_\_\_\_ is a faithful friend of Velunachiyar.
4. The Palayakkarars system was put in place in TamilNadu by \_\_\_\_\_.
5. Velunachiyar and her daughter were under the protection of \_\_\_\_\_ for eight years.

II. Match the following: 5x1=5

- |                     |   |                     |
|---------------------|---|---------------------|
| 6. i) Ondiveeran    | - | Padikaval           |
| ii) Kalakadu Battle | - | Sivagangai          |
| iii) Velunachiyar   | - | Kakatiya Kingdom    |
| iv) Prataba Rudhra  | - | Army of Puli Thevar |
| v) Palayakkarars    | - | Tirunelveli         |

III. Answer the following questions: 3x2=6

7. Identify the Palayans based on the division of east and west.
8. What was the significance of the Battle of Kalakadu?
9. Define Palayams and Palayakkars.

IV. Answer the questions given under each caption: 1x4=4

10. Velunachiyar
  - a) Who was the military chief of Velunachiyar?
  - b) What were the martial arts in which she was trained?
  - c) Whom did she marry?
  - d) What was the name of her daughter?

V. Answer in a paragraph: 1x5=5

1. Write a note on Puli Thevar.

I. Fill in the blanks: 5x1=5

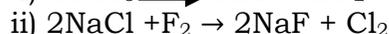
1. Sound can be heard from long distances clearly during \_\_\_\_\_.
2. The chemical formula for marble is \_\_\_\_\_.
3. \_\_\_\_\_ gives an insoluble salt as the product.
4. \_\_\_\_\_ theory explains the origin of universe.
5. \_\_\_\_\_ was supposed to have been formed about 4.5 billion years ago.

II. Answer the following in one or two sentences: 5x2=10  
Part - A (any one)

1. What is the audible range of frequency?
2. At what temperature will the velocity of sound in air be double the velocity of sound in air at 0°C?

Part - B (any three)

1. Write the differences between combination and decomposition reactions.
2. Complete the following equation.  
 $\text{Ca}(\text{OH})_2 + \text{CO}_2 \rightarrow ?$
3. What is thermolysis?
4. Identify the types of reaction.



Part - C (any one)

1. Write a note on Biogenesis.
2. What are vestigial organs?

III. Answer the following in detail: 2x5=10

Part - A

1. a) State the difference between sound and light  
(or)

- b) State the laws of reflection of sound with diagram.

Part - B

2. a) Write a note on Archaeopteryx.

(or)

- b) Write a note on Lamarckism and draw a flowchart showing the postulates of Lamarckism.

I. Answer the following: 2x5=10

1. Find the value of a,b,c and d from the equation.

$$\begin{pmatrix} a-b & 2a+c \\ 2a-b & 3c+d \end{pmatrix} = \begin{pmatrix} 1 & 5 \\ 0 & 2 \end{pmatrix}$$

2. Find the values of x, y and z from the equation.

$$\begin{pmatrix} x+y & 2 \\ 5+z & xy \end{pmatrix} = \begin{pmatrix} 6 & 2 \\ 5 & 8 \end{pmatrix}$$

II. Answer the following: 4x2=8

3. Construct a  $3 \times 3$  matrix of  $a_{ij} = |i - 2j|$

4. If  $A = \begin{pmatrix} \sqrt{7} & -3 \\ -\sqrt{5} & 2 \\ \sqrt{3} & -5 \end{pmatrix}$  then find the transpose of -A.

5. Define zero matrix.

6. Find the element in the second row and third column of the

matrix  $\begin{pmatrix} 1 & -2 & 3 \\ 2 & 1 & 5 \end{pmatrix}$

III. Fill in the blanks: 7x1=7

7. Transpose of a column matrix is \_\_\_\_\_ matrix.

8. Write the possible orders of a matrix having 100 elements.

9. Two matrices A and B are said to be \_\_\_\_\_ matrix if  $a_{ij}=b_{ij}$ .

10. A unit matrix of order 3 is written as \_\_\_\_\_.

11.  $(A^T)^T =$  \_\_\_\_\_.

12. The order of  $\begin{pmatrix} \sin\theta \\ \cos\theta \\ \tan\theta \end{pmatrix}$  is \_\_\_\_\_.

13. A \_\_\_\_\_ is a rectangular array of elements.